BRUHAT BANGALORE MAHANAGARA PALIKE

PWD FORM-45 (WORK SLIP)

Name of work:Improvements to Roads and Drains surrounding in Ward No.10

Name of Agency/Contractor: Sri.K.V. Subba Reddy

Estimated Cost:100.00 Lakhs

Tender Amount:9281718.05

Job Code:010-20-000063

Work order No:BBMP/EE/BTP/WO/201/2020-21

Sl. No	Description of work	Unit	Qty. as per Sanctioned Estimate			Qty. as per Tender			Actual Executed Qty	Qty. as per Actuals Upto 125%			Qty. as per Actuals Above 125%			Total Executed Amount	Savings	Excess	Remarks
			Qty	Rate	Amount	Qty	Rate	Amount		Qty	Rate	Amount	Qty	Rate 2018-19 SR	Amount				
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1	Removing and resetting of footpath slab	Sqm	648.90	208.82	135503.30	648.90	219.05	142141.55	240.94	240.94	219.05	52777.91	0.00	0.00	0.00	52777.91	89363.64		
2	Earthwork excavation by manual means in ordinary soil involving an average horizontal throw upto 2 meters and an average lift upto 0.5 m, excavated surface leveled and sides neatly dressed, the disposed earth to be leveled neatly after breaking of clods complete as per specifications.	Cum	642.74	137.80	88569.57	642.74	144.55	92908.07	558.15	558.15	144.55	80681.23	0.00	0.00	0.00	80681.23	12226.83		
3	KSRRB M2900- PCC 1:3:6 in Foundation KSRRB M2900-1. Plain cement concrete 1:3:6 mix with crushed stone aggregate 40 m nominal size mechanically mixed, placed in foundation and compacted by vibration including curing complete as per specifications MORTH Specification No. 408	Cum	113.68	4479.56	509236.38	113.68	4699.00	534182.32	75.30	75.30	4699.00	353833.53	0.00	0.00	0.00	353833.53	180348.79		
4	Providing and laying plain/reinforced cement concrete for side drains using M20 nominal mix concrete with OPC at 300 kgs. with 20mm and down size granite metal coarse aggregates at 0.69 cum and fine aggregates at 0.43 cum machine mixed, well compacted for walls and bottom including centering, shuttering, cost of materials, HOM of machinery, curing etc., complete excluding cost of steel as per MORTH specification No. 1500, 1700, 2200. including cost of materials, labour, HOM complete as per specificationsdo- Wall & bottom thickness 15cm	Cum	241.60	7070.20	1708160.32	241.60	7416.64	1791860.22	141.99	141.99	7416.64	1053068.32	0.00	0.00	0.00	1053068.32	738791.91		
5	KSRB 4-6.1 : Providing and removing centering, shuttering, strutting, propping etc., and removal of form work for foundations, footings, bases of columns for mass concrete including cost of all materials, labour complete as per specificaitons. Specification No. KBS 4.6.2	Sqm	12.00	273.48	3281.76	12.00	286.88	3442.56	14.66	14.66	286.88	4204.23	0.00	0.00	0.00	4204.23		761.67	

Sl. No	Description of work	Unit	Qty. as per Sanctioned Estimate			Qty. as per Tender			Actual Executed Qty	Qty. as per Actuals Upto 125%			Qty. as per Actuals Above 125%			Total Executed Amount	Savings	Excess	Remarks
			Qty	Rate	Amount	Qty	Rate	Amount		Qty	Rate	Amount	Qty	Rate 2018-19 SR	Amount				
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
6	KSRB 4-6.4 : Providing and removing centering, shuttering, strutting, propping etc., and removal of form work for vertical surface such as walls at any thickness, including attached pilasters, buttresses, plinth cills and string courses cost of all materials, labour complete as per specifications. Specification No. KBS 4.6.2	Sqm	57.60	379.48	21858.05	57.60	398.00	22924.80	71.76	71.76	398.00	28560.48	0.00	0.00	0.00	28560.48		5635.68	
7	Providing and laying in Position Palin/ Reinforced cement concrete M-20 for Sub Structure/ Super Structure Works,in with cement @ 320 kg, 20mm & down size graded graniteMetal Coarse Aggrigate @ 0.69 cum and fine aggregates @ 0.46 cum, Machine Mixed with super plasticiser @ 3lts confirmingto IS-9103- ,2008 Concrete laid in layers,Well Compacted and Providing Weep Holes Wherever Necessery Scoffolding, form work etc,, including Cost of Labour, HOM Curing etc,, complete	Cum	14.40	5277.74	75999.46	14.40	5536.35	79723.44	26.15	18.00	5536.35	99654.30	8.15	5930.49	48359.43	148013.73		68290.29	
8	Providing T.M.T steel reinforcement for R.C.C workincluding straightening, cutting, bending, hooking, placing in position,lapping and / or welding wherever required, tying with binding wire andanchoring to the adjoining members wherever necessary complete asper design (laps, hooks and wastage shall not be measured and paid)cost of materials, labour, HOM of machinery complete as perspecifications.Specification No. KBS 4.6.3 TMT Bars Fe-500	Tonne	14.08	65046.90	915860.35	14.08	68234.20	960737.54	10.37	10.37	68234.20	707373.38	0.00	0.00	0.00	707373.38	253364.16		
9	Providing granite slabs of selected quality roughly dressed having a size of 10 cms thick and fixed in cement mortar (1:6) including fixing curing ete., complete.	Sqm	728.10	966.72	703868.83	728.10	1014.00	738293.40	256.01	256.01	1014.00	259589.07	0.00	0.00	0.00	259589.07	478704.33		
10	Providing one line dressing to granite stone slab / granite stone masonry as per specifications	Sqm	653.85	950.82	621693.66	653.85	997.41	652156.53	256.01	256.01	997.41	255341.95	0.00	0.00	0.00	255341.95	396814.58		
11	Providing chamfering edges to stone slab 2.5 cms. wide as per specifications. (only chamfered length shall be recorded)	Mtr	1779.90	61.48	109428.25	1779.90	64.49	114785.75	1401.30	1401.30	64.49	90369.84	0.00	0.00	0.00	90369.84	24415.91		

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			Qty	Rate	Amount	Qty	Rate	Amount		Qty	Rate	Amount	Qty	Rate 2018-19 SR	Amount				
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
12	RCC Precast Cover Slab of 250mm thick providing and fixing precast reinforced cement concrete covering slabs of 25cm thick made out of M25 with OPC Cement @340kg/cum with 20mm and down size graded granite metal coarse aggregates at 0.70cum and fine aggrigates at 0.74cum with superplasticiseers,machine mixed includingproviding and removing,centring,shuttering,strutting ,propping,etc,,for edge of slabs with TMT Steels (Fe-500) cost and reinforcement charges, including finishing as required with cost of all materials, labours and all lead and lift, HOM Machineries,curing,including cost reinforcement etc..,, complete as per direction of Engineer incharge of the	Sqm	28.80	5217.00	150249.60	28.80	5472.63	157611.74	50.07	36.00	5472.63	197014.68	14.07	5472.63	76999.90	274014.58		116402.84	
13	Dismantling of cement concrete pavement by mechanical means using pneumatic tools, breaking to pieces not exceeding 0.02 cum in volume and stock piling at designated locations and disposal of dismantled materials stacking serviceable and unserviceable materials seperately complete as per specifications.	Cum	48.75	952.94	46455.83	48.75	999.63	48731.96	67.39	60.94	999.63	60914.95	6.45	999.54	6445.53	67360.48		18628.52	
14	Excavation in Soil using Hydraulic Excavator CK 90 and Tippers with Disposal KSRRB M300-14. Excavation for roadwork in soil with hydraulic excavator of 0.9 cum bucket capacity including cutting and loading in tippers, trimming bottom and side slopes, in accordance with requirements of lines, grades and cross sections, and transporting to the embankment location and complete as per specifications. MORTH Specification No.301	Cum	109.66	43.46	4765.82	109.66	45.59	4999.40	830.73	137.08	45.59	6249.25	693.65	45.59	31620.35	37869.60		32870.20	

Sl. No	Description of work	Unit	Qty. as per Sanctioned Estimate			Qty. as per Tender			Actual Executed Qty	Qty. as per Actuals Upto 125%			Qty. as per Actuals Above 125%			Total Executed Amount	Savings	Excess	Remarks
			Qty	Rate	Amount	Qty	Rate	Amount		Qty	Rate	Amount	Qty	Rate 2018-19 SR	Amount				
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
15	Construction of dry lean cement concrete mix CC1:5:10 with OPC cement @160Kgs, with 25mm and down size graded granite metal coarse aggregate at 0.86cum and fine aggregates @ 0.58cum Sub- base over a prepared sub-grade with (coarse and fine aggregate conforming to IS: 383) aggregate cement ratio not to exceed 15:1. Aggregate gradation after blending to be as per Table 600-1, cement content not to be less than 160 kg/ cum, optimum moisture content to be determined during trial length construction, concrete strength not to be less than 10 Mpa at 7 days, mixed in a batching plant, transported to site, laid with a paver with electronic sensor, compacting with 8-10 tonnes	Cum	47.25	3884.90	183561.53	47.25	4075.26	192556.04	205.32	59.06	4075.26	240695.04	146.25	4259.87	623018.72	863713.76		671157.73	
16	Cement concrete pavement.Construction of un-reinforced plain cement concrete pavement, thickness as per design, over a prepared sub base with OPC cement or any other type as per clause 1051.2.2 design mix M20/M30 , with 25mm and down size graded granite metal coarse aggregates and fine aggregtes , with superplastisiser @3lts confirming to IS9103-1999 Reaffirmed-2008 , mixed in a concrete mixer of not less than 0.6 cum capacity and appropriate weigh batcher as per approved mix design, laid in approved fixed side form work (steel channel, laying and fixing of 125 micron thick polythene film, wedges, steel plates including levelling the form work as per	Cum	254.66	5210.96	1327023.07	254.66	5466.30	1392047.96	205.32	205.32	5466.30	1122316.12	0.00	0.00	0.00	1122316.12	269731.84		
17	Vaccum de-watering with vaccum pump and suction mat and compaction with skin floater clubbed with floating disc including cost of generator, HOM of machinery, Screed Vibratory, Power Floater, blade and disc etc., with all lead and lift.	Sqm	1697.70	72.08	122370.22	1697.70	75.61	128363.10	1368.77	1368.77	75.61	103492.70	0.00	0.00	0.00	103492.70	24870.40		

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			Qty	Rate	Amount	Qty	Rate	Amount		Qty	Rate	Amount	Qty	Rate 2018-19 SR	Amount				
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
18	Wet Mix Macadam - Providing, laying, spreading and compacting crushed stone aggregates of granite / trap / basalt to wet mix macadam specifications including pre mixing the material with water at OMC in mechanical mix plant carriage of mixed method of tipper to site, laying in uniform layers with paver in sub-base/base course on well prepared surface and compacting with vibratory roller to achieve the desired density complete as per specifications. MORTH Specification No. 406	Cum	52.50	2001.28	105067.20	52.50	2099.34	110215.35	354.03	65.63	2099.34	137769.19	288.40	2099.14	605397.97	743167.16		632951.81	
19	KSRRB M500-6. Providing and applying primer coat with S.S. bitumen emulsion on prepared surface of granular base such as WMM including cleaning of road surface and spraying primer at the rate of 0.60 kg / sqm using mechanical means complete as per specifications. MORTH Specification No. 502	Sqm	233.32	29.68	6924.94	233.32	31.30	7302.92	1541.70	291.65	31.30	9128.65	1250.05	35.58	44475.14	53603.78		46300.87	
20	Cleaning the existing black topped surface with brooms, soft brushes and finally dusting with old gunny bags and / or compressed air to receive bituminous treatment including cost of all materials, labour, HOM of machineries complete as per specifications. MORTH specification clause 501	Sqm	4928.28	5.30	26119.88	4928.28	5.56	27401.24	2628.80	2628.80	5.56	14616.13	0.00	0.00	0.00	14616.13	12785.11		
21	KSRRB 500-7. Providing and applying tack coat using 80/100 grade bitumen(VG10) on the prepared black topped surfaces at 2.5 kg per 10 sqm, heating bitumen in boiler fitted with spray set (excluding cleaning of road surface) including cost of all materials, labour, HOM of machineries complete as per specifications. MORTH/Chapter 5	Sqm	5859.55	12.72	74533.48	5859.55	13.34	78166.40	2628.80	2628.80	13.34	35068.19	0.00	0.00	0.00	35068.19	43098.21		

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			Qty	Rate	Amount	Qty	Rate	Amount		Qty	Rate	Amount	Qty	Rate 2018-19 SR	Amount				
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
22	KSRRB M500-17. Providing and laying dense graded bituminous macadam using crushed aggregates of specified grading, premixed with VG30 grade bituminous binder and, transporting the hot mix to work site, laying to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH table 500-10 complete in all respects complete as per specifications.. MORTH Specification No. 507 - using 40/60 TPH capacity H.M.P. with Mechanical paver Gr-II (50 mm to 75 mm) with 4.5 % VG-30 Bitumen	Cum	34.90	6407.70	223628.73	34.90	6721.68	234586.63	77.09	43.63	6721.68	293233.29	33.46	7649.42	255949.52	549182.81		314596.18	
23	KSRRB M500-19. Providing and laying bituminous concrete 40 mm thick with hot mix plant, using crushed aggregates of specified grading, premixed with bituminous binder and filler, transporting the hot mix to work site, laying with a paver finisher to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH specification clause No. 507 of MORTH V revision as per IRC SP-53-2015. do Using - 40/60 TPH capacity H.M.P. with Mechanical Paver Gr-II (30 mm to 45 mm) with 5.4% of Modified bituminous binder consisting of 4.97% of VG-30 Bitumen (60/70 grade) and 0.43% of plastomeric	Cum	206.46	7355.34	1518583.50	206.46	7715.75	1592993.75	105.15	105.15	7715.75	811326.54	0.00	0.00	0.00	811326.54	781667.20		
24	Road Marking with Hot Applied Thermoplastic Compound with Reflectrising Glass Beads on Bituminous Surface:- Providing and laying of hot applied thermoplastic compound 2.5 mm thick including reflectorising glass beads at 250 gms per sqm area, thickness of 2.5 mm is exclusive of surface applied glass beads as per IRC:35. The finished surface to be level, uniform and free from streaks and holes complete as per specifications.	Sqm	218.46	454.74	99342.50	218.46	477.00	104205.42	100.00	100.00	477.00	47700.00	0.00	0.00	0.00	47700.00	56505.42		

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			Qty	Rate	Amount	Qty	Rate	Amount		Qty	Rate	Amount	Qty	Rate 2018-19 SR	Amount				
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
25	Cost of Haulage including Loading and Unloading of Stone Boulder / Stone aggregates /Sand/ Kanker / Moorum. KSRRB M100-1 : Placing tipper at loading point, loading with front end loader,dumping, turning for return trip, excluding time for haulage and return trip complete as per specifications.As Per the direction of Engineer Incharge of the work	Cum	801.15	82.60	66174.99	801.15	86.65	69419.65	1551.55	1001.44	86.65	86774.56	550.11	86.65	47667.28	134441.84		65022.19	
	Total Construction Cost				**8848213.00**			**9281718.05**				**6151753.51**			**1739933.85**	**7891687.36**	**3362688.33**	**1972617.98**	
	GST Charges 12%				**1061786.00**														
	Add 1% PMC & Quality Control Charges				**88483.00**														
	Sub Total				**9998482.00**														
	Miscellaneous and rounding off				**1518.00**														
	Total				**10000000.00**			**9281718.05**				**6151753.51**			**1739933.85**	**7891687.36**	**3362688.33**	**1972617.98**	

Percentage Excess Approved Tender Amount $\frac{1972617.98}{9281718.05} \times 100$ **14.43%**

Assistant Engineer
Ward No.10

Assistant Executive Engineer
Vidyaranyapura Sub division

ASSISTANT EXECUTIVE ENGINEER
Vidyaranyapura Sub-Division
Bruhath Bengaluru Mahanagara Palike

Executive Engineer
Byatarayanapura Division

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BRUHAT BANAGLORE MAHANAGARA PALIKE

Rate Analysis as per PWD BR Circle

RATE ANALYSIS 2018-19

Sl. No	Particulars	Unit	SR 2018-19	Page No.	Item No.	Basic Rate	Cement Rate Changes	Sub Total	Area Weightage at 6%	Sub Total Rate in RS.	Add TP +4.89	Total Rate in Rs.
1	2	3	4	5	6	7	8		10	11		11
7	Providing and laying in Position Palin/ Reinforced cement concrete M-20 for Sub Structure/ Super Structure Works,in with cement @ 320 kg, 20mm & down size graded graniteMetal Coarse Aggrigate @ 0.69 cum and fine aggregates @ 0.46 cum, Machine Mixed with super plasticiser @ 3lts confirmingto IS-9103- ,2008 Concrete laid in layers,Well Compacted and Providing Weep Holes Wherever Necessery Scoffolding, form work etc,, including Cost of Labour, HOM Curing etc,, complete	Cum	PWD	257	34.17	4979.00	Note:- (320*490.63/100) =-1570.02, Note:- (320*300.78/50)=+1 924.99	5333.97	320.04	5654.01	276.48	5930.49
12	RCC Precast Cover Slab of 250mm thick providing and fixing precast reinforced cement concrete covering slabs of 25cm thick made out of M25 with OPC Cement @340kg/cum with 20mm and down size graded granite metal coarse aggregates at 0.70cum and fine aggrigates at 0.74cum with superplasticiseers,machine mixed including providing and removing,centring,shuttering,strutting,propping, etc,,for edge of slabs with TMT Steèls (Fe-500) cost and reinforcement charges, including finishing as required with cost of all materials, labours and all lead and lift, HOM Machineries,curing,including cost reinforcement etc..,,	Sqm	PWD	Data Rate						5217.00	255.11	5472.63
13	Dismantling of cement concrete pavement by mechanical means using pneumatic tools, breaking to pieces not exceeding 0.02 cum in volume and stock piling at designated locations and disposal of dismantled materials stacking serviceable and unserviceable materials seperately complete as per specifications.	Sqm	PWD	140	18.47	899.00		899.00	53.94	952.94	46.60	999.54
14	Excavation in Soil using Hydraulic Excavator CK 90 and Tippers with Disposal KSRRB M300-14. Excavation for roadwork in soil with hydraulic excavator of 0.9 cum bucket capacity including cutting and loading in tippers, trimming bottom and side slopes, in accordance with requirements of lines, grades and cross sections, and transporting to the embankment location and complete as per specifications. MORTH Specification No.301	Cum	PWD	143	19.14	41.00		41.00	2.46	43.46	2.13	45.59

Sl. No	Particulars	Unit	SR 2018-19	Page No.	Item No.	Basic Rate	Cement Rate Changes	Sub Total	Area Weightage at 6%	Sub Total Rate in RS.	Add TP +4.89	Total Rate in Rs.
1	2	3	4	5	6	7	8		10	11		11
15	Construction of dry lean cement concrete mix CC1:5:10 with OPC cement @150Kgs, with 25mm and down size graded granite metal coarse aggregate at 0.86cum and fine aggregates @ 0.58cum Sub- base over a prepared sub-grade with (coarse and fine aggregate conforming to IS: 383) aggregate cement ratio not to exceed 15:1. Aggregate gradation after blending to be as per Table 600-1, cement content not to be less than 160 kg/ cum, optimum moisture content to be determined during trial length construction, concrete strength not to be less than 10 Mpa at 7 days, mixed in a batching plant, transported to site, laid with a paver with electronic sensor, compacting with 8-10 tonnes vibratory roller, finishing and curing complete as per specifications. .	Cum	PWD	176	22.1.2	3665.00	Note:- (150*490.63/100) =-735.95, Note:- (150*300.78/50)=+902.34	3831.39	229.88	4061.27	198.60	4259.87
18	Wet Mix Macadam - Providing, laying, spreading and compacting crushed stone aggregates of granite / trap / basalt to wet mix macadam specifications including pre mixing the material with water at OMC in mechanical mix plant carriage of mixed method of tipper to site, laying in uniform layers with paver in sub-base/base course on well prepared surface and compacting with vibratory roller to achieve the desired density complete as per specifications. MORTH	Cum	PWD	155	20.18	1888.00		1888.00	113.28	2001.28	97.86	2099.14
19	KSRRB M500-6. Providing and applying primer coat with S.S. bitumen emulsion on prepared surface of granular base such as WMM including cleaning of road surface and spraying primer at the rate of 0.60 kg / sqm using mechanical means complete as per specifications. MORTH	Cum	PWD	158	21.6	32.00	Issued Rate (Date-01-01-2021)	32.00	1.92	33.92	1.66	35.58
22	KSRRB M500-17. Providing and laying dense graded bituminous macadam using crushed aggregates of specified grading, premixed with VG30 grade bituminous binder and, transporting the hot mix to work site, laying to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH table 500-10 complete in all respects complete as per specifications.. MORTH Specification No. 507 - using 40/60 TPH capacity H.M.P. with Mechanical paver Gr-II (50 mm to 75 mm) with 4.5 %	Cum	PWD	160	21.17.6	6880.00	Issued Rate (Date-01-01-2021)	6880.00	412.80	7292.80	356.62	7649.42
25	Cost of Haulage including Loading and Unloading of Stone Boulder / Stone aggregates /Sand/ Kanker / Moorum. KSRRB M100-1 : Placing tipper at loading point, loading with front end loader,dumping, turning for return trip, excluding time for haulage and return trip complete as per specifications.As Per the direction of Engineer Incharge of	Cum	PWD	136	17.1 & 17.4	82.60		82.60		82.60	4.04	86.65

Assistant Engineer
Ward No.10

Assistant Executive Engineer
Vidyaranyapura Sub division

Executive Engineer
Byatarayanapura Division